

IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION

KERR MACHINE CO.,

Plaintiff,

v.

VULCAN INDUSTRIAL HOLDINGS, LLC,  
VULCAN ENERGY SERVICES, LLC, and  
CIZION, LLC d/b/a VULCAN  
INDUSTRIAL MANUFACTURING,

Defendant.

CIVIL ACTION NO. 6:20-CV-200-ADA

JURY TRIAL DEMANDED

**DEFENDANTS' OPENING CLAIM CONSTRUCTION BRIEF**

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**TABLE OF ABBREVIATIONS**

<b>Abbreviation</b>	<b>Full Name</b>
'070 Patent	U.S. Patent No. 10,591,070, attached to the Herman Declaration as Exhibit 1
'070 FH	File History of U.S. Patent No. 10,591,070, attached to the Herman Declaration as Exhibit 2
'267 Application	U.S. Patent Application No. 16/814,267
'267 FH	File History of U.S. Patent Application No. 16/814,267, attached to the Herman Declaration as Exhibit 12
'659 Application	U.S. Patent Application No. 16/897,659
'659 FH	File History of U.S. Patent Application No. 16/897,659, attached to the Herman Declaration as Exhibit 13
'414 Application	U.S. Patent Application No. 16/876,414
'414 FH	File History of U.S. Patent Application No. 16/876,414, attached to the Herman Declaration as Exhibit 14
Blume '940	U.S. Patent No. 6,382,940, attached to the Herman Declaration as Exhibit 9
Herman	Declaration of Barry J. Herman in Support of Defendants' Opening Claim Construction Brief, dated October 15, 2020
Marscher	Declaration of William D. Marscher, P.E. in Support of Defendants' Opening Claim Construction Brief, dated October 15, 2020
POSITA	Person of Ordinary Skill in the Art
PTO	United States Patent and Trademark Office

## I. INTRODUCTION

Plaintiff Kerr Machine Co. (“Kerr”) accuses Vulcan Industrial Holdings, LLC, Vulcan Energy Services, LLC, and Cizion, LLC d/b/a Vulcan Industrial Manufacturing (collectively, “Vulcan”) of infringing certain claims of U.S. Patent No. 10,591,070 titled “Sealing High Pressure Flow Devices” (the “’070 Patent”). The ’070 Patent generally focuses on the sealing of fluid flow passages inside a fluid end assembly for use in high pressure oil and gas production and processing systems. It claims a fluid end assembly with, *inter alia*, (1) seal grooves in the housing of the pump and (2) a sleeve with packing seals disposed within the sleeve.

Eight claim terms are in dispute. Vulcan’s proposed constructions for these terms are supported by the intrinsic and extrinsic evidence, and will help the jury to understand the terms as used in oilfield pumping. By contrast, Kerr’s proposals are largely unsupported by the intrinsic evidence and selectively quote the specification out of context. Further, they are unnecessarily complicated and will not help the jury. The Court should adopt Vulcan’s proposals and reject Kerr’s attempts to redefine its claims, which will confuse and mislead the jury.<sup>1</sup>

## II. BACKGROUND

A reciprocating plunger pump designed for pumping fluids at high pressures in oil and gas service includes (1) a power end and (2) a fluid end. The power end converts the rotation of the crankshaft of a drive shaft, e.g., powered by a motor, into the reciprocating movement that reciprocates the plunger through the connecting rods and crossheads. The fluid end is responsible for directly moving the fluid at high pressures through the interaction of the reciprocating plunger, one or more valves, liners, and seals within a fluid end housing or body.

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<sup>1</sup> Because the Court is familiar with the law of claim construction, Vulcan will discuss specific claim construction principles only where applicable to the facts of the disputed claim terms.

### A. The '070 Patent

The '070 Patent is titled “Sealing High Pressure Flow Devices.” The claims of the '070 Patent are directed to a fluid end assembly and a method of manufacturing the same. Specifically, the '070 Patent describes the fluid end assembly as being used in “well servicing applications to contain high pressure, often corrosive and/or abrasive, fracturing fluids in the oil and gas industry.” '070 Patent at 1:54-56; *see also id.* at 7:10-13. Figure 17<sup>2</sup> of the '070 Patent shows a cross-sectional view of a fluid end allegedly constructed in accordance with embodiments of the '070 Patent:

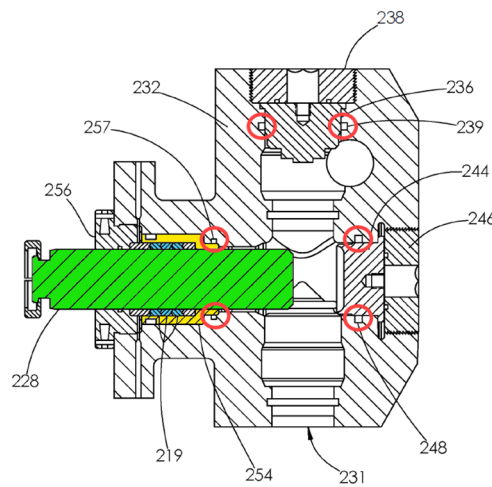


FIG. 17

'070 Patent at Fig. 17 (annotated). The red circles indicate endless grooves and seals in the fluid end body or housing. The plunger (green) and packing seals (blue) are disposed within a tubular sleeve (yellow). Marscher ¶¶20-21.

Operating fluid end assemblies under high pressure with corrosive and/or abrasive fluids allegedly “can cause erosion of the body resulting in leakage in a short amount of time.” '070 Patent at 1:62-65; *see also id.* at 1:12-17. The '070 Patent describes the prior art approach to

<sup>2</sup> Fig. 17 was first submitted to the PTO in January 2020 in an amendment and subsequent to objections from the Patent Examiner that every feature of the invention specified in the claims is not shown in the drawings.



containing high pressure fluid inside the valve as having a recess and seal in the insert (the sealed component), where the seal extends from the recess to seal against the valve body bore. *Id.* at 4:50-5:5. The specification states that “[w]hat is needed is a solution that transfers the erosion (corrosion and abrasion) from the high pressure fluid device body to the component sealed with the body.” *Id.* at 1:66-2:4. The ’070 Patent purports to achieve this result by placing the recess and seal in the valve body bore/housing, with the seal extending from the recess to seal against the insert/sealed component. *See id.* at 8:60-9:20; *see also id.* at Fig. 17. Marscher ¶¶22-23.

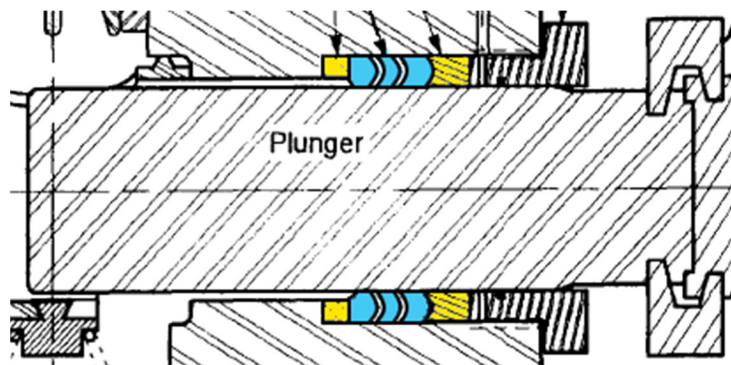
The ’070 Patent also discloses a stuffing box sleeve (“tubular sleeve”), where the plunger and the packing seals are disposed within the tubular sleeve. ’070 Patent at 10:1-3. It further indicates that—aside from the allegedly novel placement of the seal and groove in the housing as opposed to in the stuffing box sleeve—such sleeves were known in the prior art. *Id.* at 11:26-39. Marscher ¶¶24-25.

The ’070 Patent has two independent claims, claims 1 and 6, which both claim a method of manufacturing a fluid end assembly comprising certain limitations. Both independent claims recite, among other things, (1) an endless groove in the housing, with a seal positioned within the groove, and (2) a tubular sleeve which has a plurality of packing seals disposed within. The dependent claims are directed to narrower characteristics of the groove and seal in the housing (including their locations), a plug/closure element, and pressure and horsepower limitations. Marscher ¶¶26-27.

## B. Prosecution History

The '070 Patent issued from U.S. Patent Application Number 16/574,918, filed September 18, 2019, claiming benefit to a series of earlier patent applications (Herman Exs. 3-8), beginning with U.S. Provisional Application Number 62/234,483, filed September 29, 2015 (Herman Ex. 3).<sup>3</sup>

During prosecution of the '070 Patent application, on November 26, 2019, the PTO issued a non-final office action rejecting all claims either under 35 U.S.C. § 102 as being anticipated by “Blume '940 or under 35 U.S.C. § 103, with Blume '940 being the primary reference. Herman Ex. 2 at 59-62. The Examiner primarily relied on Blume '940 Figures 1 and 3-5, which show, *inter alia*, packing seals (blue) sandwiched between the brass (yellow):



Herman Ex. 9 at Fig. 1 (cropped and annotated); *see also id.* at Fig. 5; Marscher ¶29.

In response, Kerr argued that Blume '940 fails to disclose (1) the tubular sleeve (with packing seals disposed within the sleeve) and (2) the groove and seal in the plunger bore housing. Herman Ex. 2 at 47-48. However, Kerr's assertion that Blume '940 does not teach the sleeve limitations<sup>4</sup> ignores Blume '940 Figures 8, 10-12, and 14 (not cited by the Examiner), all of which

<sup>3</sup> Although not specifically relevant to the issues to be decided during claim construction, Vulcan may dispute the alleged priority date of the '070 Patent.

<sup>4</sup> Kerr argued to the Examiner that “Blume ['940] does not teach or disclose” “a plurality of packing seals disposed within the sleeve.” This representation was false in view of Blume '940's Figures 8, 10-12, and 14 and accompanying disclosure that expressly disclose this feature. Marscher ¶30.

show packing seals disposed within a sleeve. Marscher ¶30.

Kerr acquiesced to the Examiner’s finding that Blume ’940 discloses the other limitations of the claims. *See* Herman Ex. 2 at 38-51; Marscher ¶31; *see also SandBox Logistics LLC v. Proppant Express Investments LLC*, 813 F. App’x 548, at 554-55 (Fed. Cir. 2020) (citations omitted) (“In ascertaining the scope of an issued patent, the public is entitled to equate an inventor’s acquiescence to the examiner’s narrow view of the patentable subject matter with abandonment of the rest.”). The Examiner issued a Notice of Allowance on February 3, 2020, and the ’070 Patent issued on March 17, 2020. However, Kerr’s sole purported bases for patentability—(1) the tubular sleeve with packing seals disposed within the sleeve (disclosed in Blume ’940, but not appreciated by the Examiner), and (2) and the groove and seal in the plunger bore housing—are identically disclosed in the prior art. Marscher ¶¶31-32.<sup>5</sup>

### III. AGREED UPON CONSTRUCTIONS

Vulcan and Kerr have agreed to the below constructions:

Claim Term	Agreed Construction
“fully block fluid flow” (cls 4, 8)	Plain & Ordinary Meaning
“horsepower” (cls 14, 21)	Plain & Ordinary Meaning
“at least a portion of the sleeve engages with the seal” (cls 1, 6)	“any portion of the sleeve contacts the seal in the groove in the housing”
“packing seals” (cls 1, 6, 22)	“compressible materials that, upon compression, form a seal between surfaces of machine parts designed to move relative to one another”

<sup>5</sup> Moreover, during prosecution of U.S. Patent No. 10,288,178, the grandparent of the ’070 Patent, the Examiner issued an Office Action on April 27, 2018, rejecting the claims as obvious, focusing on the prior art’s disclosure of a groove and seal in the housing. *See* Herman Ex. 7 at 71-80. In response, Kerr argued that “[a]t the time of Applicants’ invention, machining techniques known in the art did not allow the creation of such a non-planar groove” in a valve body’s curved surface, that “[s]uch a procedure was commonly thought to be impossible.” *Id.* at 55. In support, Kerr submitted two declarations attesting that at the time of its alleged invention, the groove in the housing was “impossible to machine” and that Kerr had to modify dental tools to inform its machining process. *Id.* at 60-65. However, techniques for machining grooves in the interior walls of fluid flow devices were known in the art. Marscher ¶32.

Claim Term	Agreed Construction
“a second seal positioned with the second groove” (cl 16)	“a second seal positioned within the second groove”
“a valve positioned with the first conduit” (cl 17)	“a valve positioned within the first conduit”

Vulcan respectfully requests that the Court adopt these agreed-upon constructions.

#### IV. DISPUTED CLAIM TERMS

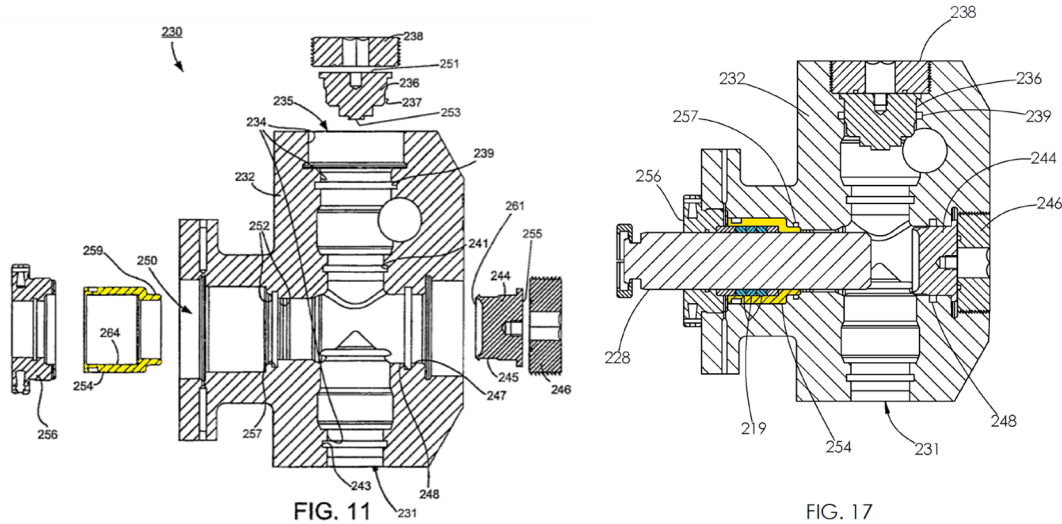
##### A. “Tubular Sleeve”

Claim Term	Vulcan’s Construction	Kerr’s Construction
“tubular sleeve” (cls 1, 6)	“open, substantially cylindrical-shaped stuffing box sleeve”	“open or hollow primarily cylindrical enclosure”

The term “tubular sleeve” should be construed as “open, substantially cylindrical-shaped stuffing box sleeve.” Vulcan’s proposed construction is consistent with the intrinsic evidence.

Apart from the claims, the ’070 Patent specification describes a “stuffing box sleeve” nineteen times, but refers to a “tubular sleeve” just once. There, the ’070 Patent specification describes that “[t]he stuffing box sleeve 254 is characterized by a tubular sleeve.” ’070 Patent at 9:67-10:1; *see also id.* at 2:49-53 (describing the fluid end assembly as “compris[ing] a stuffing box ... having a tubular side wall”). A POSITA would therefore understand that the “tubular sleeve” refers to a “stuffing box sleeve” as stated specifically in and consistent with the ’070 Patent specification. Marscher ¶¶34-40; *see also Multifarm Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998) (“the inventor’s lexicography—must be understood and interpreted by the court as they would be understood and interpreted by a person in that field of technology”).

The shape of the stuffing box sleeve 254 is shown below in Figures 11 and 17 (annotated in yellow):



'070 Patent at Figs. 16 & 11 (annotated). As can be seen in the figures, the stuffing box sleeve

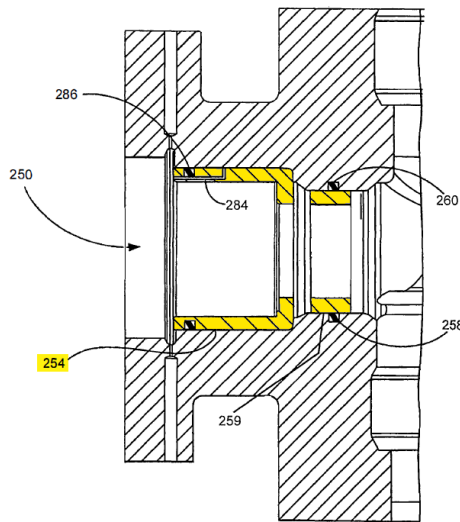


FIG. 16

tapers from left to right. The specification states that “the stuffing box sleeve 254 can be modified to a construction combining a substantially cylindrical-shaped stuffing box to which is mated a seal surface insert that provides the sealing surface 259 (FIG. 11).” *Id.* at 11:53-57 (emphasis added). Stuffing box sleeve 254 (annotated in yellow) is also described as “the open-cylinder-shaped

stuffing box sleeve 254” and depicted in Figure 16 (*see left*). *Id.* at Fig. 16 (annotated), 11:40-42. The shape of stuffing box sleeve 254 in Figure 16 is tapered just like the sleeves 254 of Figures 11 and 17 above.<sup>6</sup> In every embodiment disclosed in the '070 Patent, the stuffing box sleeve 254 has

<sup>6</sup> With respect to Figure 4, the '070 Patent specification also describes a conical insert 151 as being cylindrical. '070 Patent at 5:52-55 (“Corrosive and/or abrasive fluid can become trapped between the seal 158 (mounted to the body 152) and the insert 151 causing erosion of the outer cylindrical surface of the insert 151.”).

an outer diameter that tapers longitudinally. For this reason, a POSITA would understand and interpret the stuffing box sleeve to be “substantially cylindrical.” Marscher ¶¶35-40.

In contrast, Kerr’s proposed construction improperly attempts to limit the shape of the entire stuffing box sleeve to one not even recited in the specification. The ’070 Patent never describes the stuffing box sleeve as “primarily cylindrical.” In fact, “primarily” is never used in the ’070 Patent specification. If Kerr intended to claim “primarily cylindrical” or “cylindrical” then it certainly could have but has chosen not to do so in its related patent filings.<sup>7</sup> In Kerr’s pending ’267 Application (’070 Patent continuation application sharing the same specification), Kerr specifically claims cylindrical front and rear portions of a tubular sleeve—rather than the entirety thereof. Considering its overall shape shown in Figs. 11, 16, and 17 above and Kerr’s admissions that “the outer diameter of the rear portion is larger than an outer diameter of the front portion,” the stuffing box sleeve is best understood and described as substantially cylindrical in accordance with the language of the ’070 Patent specification. Herman Ex. 12 at 23. Therefore, in light of the specification, and contrary to Kerr’s proposal, a POSITA would have understood that the term “tubular sleeve” means an “open, substantially cylindrical-shaped stuffing box sleeve.” Marscher ¶¶34-40.

#### **B. “Therethrough”**

<b>Claim Term</b>	<b>Vulcan’s Construction</b>	<b>Kerr’s Construction</b>
“therethrough” (cls 1, 6)	“into (the housing)”	“from one side or surface to the opposing side or surface”

The term “therethrough” should be construed as “into (the housing).” The “Summary of the Invention” describes “a housing having an external surface and an internal chamber, and a first

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<sup>7</sup> See *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1327 (Fed. Cir. 2007) (prosecution history of related patents is relevant to the claim construction analysis).

conduit formed in the housing and having first and second sections, each section independently interconnecting the internal chamber and the external surface” and “a second conduit formed in the housing, intersecting the first conduit and independently interconnecting the internal chamber and the external surface.” ’070 Patent at 2:13-20 (emphasis added). Here, the interconnecting of the internal chamber and the exterior surface of the housing can only occur when the respective first or second conduit extends “into (the housing)” such that conduit extends “therethrough” to the internal chamber of the pump.

The prosecution history also supports Vulcan’s construction. The Examiner found that Blume ’940 has “a first conduit (Figs. 1 and 3-5, one of the conduits in which the Valves and Seats are in) extending therethrough, and a second conduit (Figs. 1 and 3-5, the conduit in which the Plunger is in) extending therethrough that intersects the first conduit.” Herman Ex. 2 at 59. That is, the Examiner read the “therethrough” limitation onto the Y-bore body of Blume ’940 (Fig. 5), finding that “the conduit in which the Plunger is in” satisfies the “second conduit extending therethrough” limitation. Kerr acquiesced to the Examiner’s finding. *See generally* Herman Ex. 2 at 38-51. Kerr should be held to and bound by this understanding of the claim term. *Liquid Dynamics Corp. v. Vaughan Co.*, 355 F. 3d 1361, 1367-68 (Fed. Cir. 2004) (citations omitted) (when using “the prosecution history as source material, the prior art cited and the applicant’s acquiescence with regard to that prior art indicate the scope of the claims, or in other words, what the claims do not cover”).

Kerr’s proposed construction, “from one side or surface to the opposing side or surface,” improperly attempts to rescind its prior claim construction understanding. In other words, in order to get its claims allowed by the PTO, Kerr agreed that “therethrough” meant “into (the housing)”

from an external surface of the housing to an internal chamber of the housing as described in the specification. *See* '070 Patent at 2:13-20, 7:19-30, Fig. 9; Marscher ¶¶41-46.

Kerr's proposed construction is ambiguous, and arguably renders the limitation indefinite, because it fails to reference any particular side/surface relative to an opposing side/surface and further lacks support in the '070 Patent specification or prosecution history. The POSITA is provided no basis as to what constitutes a side/surface or an opposing side/surface. Indeed, the housing has several sides/surfaces with opposing sides/surfaces (*e.g.*, radially/longitudinally, internal/external, etc.). Not surprisingly, the '070 Patent does not recite "from one side or surface to the opposing side or surface," and its proposed construction would cause confusion for the jury, since its proposed construction would need further construction.

The Court should adopt Vulcan's construction, because it reflects the ordinary and customary meaning of the term as understood by a POSITA in view of the intrinsic and extrinsic evidence and will most effectively assist the jury in understanding the term. *See Phillips v. AWH Corp.*, 415 F. 3d 1303, 1315-19 (Fed. Cir. 2005).

### C. "Endless Groove"

Claim Term	Vulcan's Construction	Kerr's Construction
"endless groove" (cls 1, 5, 6, 15, 18)	Indefinite, or in the alternative, "an annular/concentric channel or recess"	"a channel or recess without beginning or end"

The term "endless groove" is indefinite on its face. Nothing in the term itself or the claims clarifies what is meant by "endless."<sup>8</sup> Nevertheless, the claim definiteness requirement "mandates clarity." *Nautilus, Inc. v. Biosig Instr., Inc.*, 134 S. Ct. 2120, 2129 (2014) (reading 35 U.S.C. §112 to require that "a patent's claims, viewed in light of the specification and prosecution history,

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<sup>8</sup> If the term is not indefinite, then both parties agree that "groove" means "a channel or recess," as shown in at least Figures 14, 15, and 17 of the '070 Patent.



inform those skilled in the art about the scope of the invention with reasonable certainty”). The intrinsic evidence is equally unhelpful to ascertaining the scope of this claim limitation. While the ’070 Patent specification uses the phrase “endless groove or recess” eight times, it never describes how the groove is “endless” or what specific dimension or portion of the groove is “endless.”<sup>9</sup> Further, the ’070 Patent figures also fail to show a complete groove or recess such that “endless groove” could be understood by a POSITA with “reasonable clarity.” *Id.* The prosecution history is also silent as to the meaning of “endless.” *Nautilus* cautions that “[i]t cannot be sufficient that a court can ascribe some meaning to a patent’s claims; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matter *post hoc*.” *Id.* at 2130. Here, the claims, specification and prosecution fail to provide any clarity to the POSITA as to the meaning of “endless” or “endless groove,” and as such, the term is indefinite.

Particularly enlightening is that in related Kerr applications claiming an “endless groove,” and having common inventors with the ’070 Patent, the Examiner recently (June 23, 2020 and September 4, 2020) rejected the term under 35 U.S.C. §112 as being indefinite. Herman Ex. 13 at 20 (“It is unclear how a structure can be ‘endless.’”); Herman Ex. 14 at 83 (“It is unclear how a structure can be ‘endless’ as it has finite dimensions.”).<sup>10</sup> Marscher ¶47. Indeed, in the ’414 application, Kerr acquiesced to the Examiner’s indefiniteness rejection, and in its responses both on September 23, 2020 and October 8, 2020, amended “endless groove” to “annular groove” in the rejected claims without protest. Herman Ex. 14 at 45 (stating “[t]he Examiner rejected claim 6 because it is unclear as to the limitation of ‘an endless groove’ in this claim. Applicant has amended

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<sup>9</sup> This also shows a lack of written description, which Vulcan reserves for later argument.

<sup>10</sup> The ’070 Patent and the ’414 and ’659 patent applications are related through four common inventors and priority claims by patent application 16/216,709 (filing date of December 11, 2018).

claim 6 to recite ‘an annular groove.’”); Herman Ex. 14 at 1-11 (maintaining “annular groove” amendment); *see UCB, Inc. v. Yeda Research & Dev. Co., Ltd*, 837 F.3d 1256, 1260-61 (Fed. Cir. 2016) (finding that applicant’s amendment amounted to “acquiescence in the examiner’s rejection” and the applicant cannot “obtain scope that was requested during prosecution, rejected by the Examiner, and then withdrawn by the applicant”); *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1359 (Fed. Cir. 2017) (citations omitted) (stating that prosecution “disclaimer can occur through amendment or argument”).<sup>11</sup> At least because the PTO has determined the term “endless groove” to be indefinite in other related Kerr applications, and Kerr acquiesced by amending the claim term to “annular groove” without protest, the Court should likewise find the term “endless groove” to be indefinite. Marscher ¶47.

Kerr’s proposed “channel or recess without beginning or end” is itself also indefinite and just shifts the uncertainty and indefiniteness—it does not resolve it. There is no support for this proposed construction in the intrinsic evidence. Moreover, neither “endless groove” nor “channel or recess without beginning or end” serve “the definiteness requirement’s public-notice function” by “appris[ing] the public of what is still open to them.” *Nautilus*, 134 S.Ct. at 2129-30 (citations omitted). Here, a POSITA would not understand the meaning of “a channel or recess without beginning or end,” so if Kerr’s proposed construction were to be adopted, a POSITA would not understand what is, and what is not, covered by the claim, rendering it indefinite. Marscher ¶47.

Alternatively, if “endless groove” is not found to be indefinite, then the proper construction is “an annular/concentric channel or recess.” Such construction is similar to “annular groove” that

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<sup>11</sup> It is settled that generally “the same claim term in the same patent or related patents carries the same construed meaning.” *See Omega Eng’g., Inc., v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003); *see also Seachange Int’l, Inc. v. C-Cor, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005) (definition during prosecution overcomes claim differentiation doctrine).

Kerr amended to replace “endless groove” in its pending application 16/876,414. *See supra*. Indeed, the “Summary of the Invention” describes the “endless groove” as being “formed in the wall or walls defining one of the conduits and extending concentrically around that conduit” and “an annular groove formed in the housing.” ’070 Patent at 2:23-28 (emphasis added); *see also id.* at 2:37-39 (“groove extends concentrically around that section”). The ’070 Patent specification further describes that the “endless groove or recess 240 ... opens towards a centerline of the conduit within which it is formed.” *Id.* at 8:62-9:2. Thus, consistent with this express disclosure, a POSITA would understand “endless” to be synonymous with “concentric” and/or “annular.” Marscher ¶¶48-52. If “endless groove” is not found indefinite, then the Court should adopt Vulcan’s alternative construction, because Kerr’s proposed construction only will confuse—and not assist—the jury. *Bridgelux, Inc. v. Cree, Inc.*, Civil Action No. 9:06-CV-240, 2008 U.S. Dist. LEXIS 43821, at \*23 (E.D. Tex. June 3, 2008) (defining “‘transparent’ in a manner that is detailed enough to assist the jury in understanding the claims but not so complex that the jury is left more confused than it would be without any guidance”).

#### D. “Closure Element”

Claim Term	Vulcan’s Construction	Kerr’s Construction
“closure element” (cls 7, 8)	“a component that is attached or otherwise joined to a housing to provide a fluid seal between the housing and the component”	“a component that is attached or otherwise joined to a housing to help provide a fluid seal between the housing and the component, such as but not limited to the discharge plug, suction plug, discharge valve seat, suction valve seat, stuffing box sleeve, discharge flange, suction manifold, and the like”

The term “closure element” should be construed as “a component that is attached or otherwise joined to a housing to provide a fluid seal between the housing and the component.”

This is consistent with the intrinsic evidence. The '070 Patent defines the term “closure” by stating it “means a component that is attached or otherwise joined to the body to provide a high-pressure fluid seal between the body and the closure.” '070 Patent at 11:67-12:16. Claims are not afforded their plain and ordinary meaning when the patentee acts as his/her own lexicographer. *Digital Retail Apps., Inc. v. H-E-B, LP*, 6-19-cv-00167-ADA, 2020 WL 376664, at \*2 (W.D. Tex. Jan. 23, 2020) (quoting *Thorner v. Sony Comp. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). Here, the patent applicant expressly set forth a definition of the disputed claim term and clearly expressed an intent to define the term. *Id.* (“To act as his/her own lexicographer, the patentee must ‘clearly set forth a definition of the disputed claim term,’ and ‘clearly express an intent to define the term.’”). Therefore, a POSITA would have understood, in light of the specification, that the patentee acted as its own lexicographer. Marscher ¶¶56-59.

Kerr’s proposed construction is similar to Vulcan’s, but it includes language that is inconsistent with the intrinsic evidence. First, Kerr improperly attempts to add the term “to help” into its construction, however, “to help” does not appear in the specification or in the clearly expressed definition noted above. Kerr also adds a list of examples to its proposed definition (“such as but not limited to ...”),<sup>12</sup> which are duplicative of the explicit definition and potentially confusing to the jury. *See Bridgelux*, 2008 U.S. Dist. LEXIS 43821, at \*23. For at least these reasons, Vulcan’s construction should be adopted.

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<sup>12</sup> The specification further clarifies that “[i]n some embodiments such as the described fluid end embodiments ‘closure’ encompasses nonmoving components joined to the body to seal an opening such as but not limited to the discharge plug, suction plug, discharge valve seat, suction valve seat, stuffing box sleeve, discharge flange, suction manifold, and the like.” '070 Patent at 12:9-15. Kerr selectively incorporated the listed examples from this portion of the specification, but failed to incorporate “non-moving components” in its proposed construction.

**E. “Within the Sleeve”**

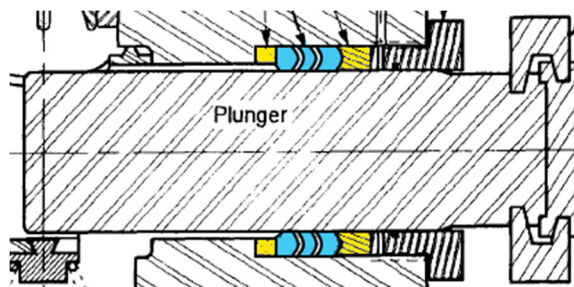
Claim Term	Vulcan’s Construction	Kerr’s Construction
“within the sleeve” (cls 1, 6)	“bounded by an inner surface of the sleeve”	Plain & Ordinary Meaning

**i. A construction of “within the sleeve” is necessary**

Fundamentally disputed claim terms must be resolved by the Court. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361-62 (Fed. Cir. 2008). Kerr defined “within the sleeve” through arguments in front of the PTO during prosecution. Prosecution estoppel/disclaimer now precludes Kerr from relying on the term’s plain and ordinary meaning.

**ii. Vulcan’s construction is consistent with the intrinsic and extrinsic evidence.**

The ’070 Patent specification describes that the stuffing box “sleeve 254 also protects the bore 252 from erosion by providing an inner diameter surface 264 against which the stuffing box packing 219 (shown in FIG. 17) seals.” ’070 Patent at 11:58-61; *see also id.* at 10:1-3<sup>13</sup> (“The plunger 228 and packing seals 219, shown in FIG. 9 and FIG. 17, may be disposed within the stuffing box sleeve 254.”). Thus, the specification describes “within the sleeve.” However, during prosecution, the Examiner primarily relied on Blume ’940 Figures 1 and 3-5, which show, *inter alia*, packing seals (blue) sandwiched between the brass (yellow):



Herman Ex. 9 at Fig. 1 (cropped and annotated); *see also id.* at Fig. 5; Marscher ¶63. In response,

<sup>13</sup> This quoted text from the ’070 Patent specification was not part of the original written description but was added by Kerr in an amendment on January 6, 2020.

Kerr argued that “the packing seals disclosed in Blume [’940] are sandwiched between the packing brass [annotated in yellow]. The packing seals are not ‘disposed within’ with packing brass. Only the plunger is disposed within the packing brass.” Herman Ex. 2 at 47-48. Thus, Kerr argued that the packing seals must be bounded by an inner surface of the sleeve in order to be “within the sleeve.” *See Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) (citations omitted) (“where the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender”). Thus, the Court should adopt Vulcan’s construction, which accounts for Kerr’s prosecution disclaimer, to ensure that the “claims are not construed one way in order to obtain their allowance and in a different way against accused infringers.” *Id.*

**F. “Seal”**

<b>Claim Term</b>	<b>Vulcan’s Construction</b>	<b>Kerr’s Construction</b>
“seal” (cls 1, 6, 11, 16, 19, 23)	“annular/concentric component of elastomeric, spring, metal, or similar material that presses tightly against a surface upon axial and/or radial compression”	Plain & Ordinary Meaning

**i. A construction of “seal” is necessary.**

The term “seal” should be construed as an “annular/concentric component of elastomeric, spring, metal, or similar material that presses tightly against a surface upon axial and/or radial compression.” While a POSITA would understand what the term “seal” means in context of the ’070 Patent, the term could have many different meanings to a jury of laypersons. In addition, the ’070 Patent contains references to, and includes as a claim limitation, the term “packing seals.” A construction that defines the disputed term is necessary to avoid confusion and ensure the jury understands the proper scope and meaning of the term. *See Embrex, Inc. v. Serv. Eng’g Corp.*,

216 F.3d 1343, 1347 (Fed. Cir. 2000) (the purpose of claim construction is to help the jury understand the meaning and scope of the claims).

**ii. Vulcan’s construction is consistent with the intrinsic and extrinsic evidence.**

The ’070 Patent specification provides that “[t]he seal 140 can be an elastomeric seal, and in other embodiments other kinds of seals can be used such as metal seals, spring seals, and the like.” ’070 Patent at 5:14-17; *see id.* at 9:7-9 (“[a]ny shape necessary to properly mount a desired seal is contemplated, whether the seal is elastomeric, spring, metal, and the like”). The specification also describes both axial and radial compression (*Id.* at 5:5-9, 5:27-33, 10:50-59) and further describes the seal being sized “so that a portion of the seal 242 ... extends beyond the recess 240 and beyond the bore 234 to pressingly seal against the sealing surface.” *Id.* at 9:7-14; *see also id.* at 10:16-21. As discussed above, the specification describes the “endless groove” as being “formed in the wall or walls defining one of the conduits and extending concentrically around that conduit” and “an annular groove formed in the housing.” ’070 Patent at 2:20-28 (emphasis added); *see also id.* at 2:37-39 (“groove extends concentrically around that section”).

In light of this disclosure, a POSITA would have understood that the term “seal” means “annular/concentric component of elastomeric, spring, metal, or similar material that presses tightly against a surface upon axial and/or radial compression.” ’070 Patent at 9:7-14 (“seal 242... extends beyond the recess 240 and beyond the bore 234 to pressingly seal against the sealing surface”); Marscher ¶¶53-55. The Court should adopt Vulcan’s proposal—and not construe as “plain and ordinary meaning”—when, as here, the term is disputed and ambiguous as to its meaning. *See O2 Micro*, 521 F.3d at 1361.

**G. “Seal is Engaged with the Outer Surface of the Sleeve”**

<b>Claim Term</b>	<b>Vulcan’s Construction</b>	<b>Kerr’s Construction</b>
“the seal is engaged with the outer surface of the sleeve” (cl 23)	“the seal in the groove in the housing contacts the outer surface of the sleeve”	Plain & Ordinary Meaning

**i. “The seal is engaged with the outer surface of the sleeve” must be construed.**

“The seal is engaged with the outer surface of the sleeve” should be construed as “the seal in the groove in the housing contacts the outer surface of the sleeve.” Marscher ¶¶60-61. The meaning of this technical term would not be readily apparent to a layperson on the jury, particularly in view of the other instances of “seal” in other claim limitations, and therefore merits construction beyond a “plain and ordinary meaning.” When “a term’s ‘ordinary’ meaning does not resolve the parties’ dispute,” reliance on the plain and ordinary meaning is inadequate and requires the court to determine what claim scope is appropriate. *O2 Micro*, 521 F.3d at 1361.

**ii. Vulcan’s construction is consistent with the intrinsic and extrinsic evidence.**

The parties have agreed upon and stipulated to a construction of the term “at least a portion of the sleeve engages with the seal” wherein “the seal” in that instance means “the seal in the groove in the housing” and “engages” means “contacts.” By this same logic, the Court should construe this specific claim language of “the seal is engaged with the outer surface of the sleeve” as “the seal in the groove in the housing contacts the outer surface of the sleeve.” This provides a consistent claim language interpretation. *Inverness Med. Switzerland GmbH v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1371 (Fed. Cir. 2002) (“A claim term used in multiple claims should be construed consistently ... and it makes no difference that claims [refer to further modifiers of the claim term]”); *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1579 (Fed. Cir. 1995) (citations omitted) (“The fact that we must look to other claims using the same



term when interpreting a term in an asserted claim mandates that the term be interpreted consistently in all claims.”). This term cannot be construed as its plain and ordinary meaning, but instead, should be construed in accordance with what has been previously agreed to by the parties, assuming the Court adopts the parties’ proposed stipulation. The Court should therefore adopt Vulcan’s proposal.

**H. “Fluid End Assembly,” a Preamble Term, has no Patentable Weight.**

<b>Claim Term</b>	<b>Vulcan’s Construction</b>	<b>Kerr’s Construction</b>
“fluid end assembly” (cls 1-24)	This clause is part of the preamble and gives no patentable weight to the claimed invention.	Construction improper.

**i. The parties dispute the construction of “fluid end assembly.”**

The term “fluid end assembly” appears in the preamble of each claim of the ’070 Patent. Vulcan submits that the Court should determine now that this portion of the preamble gives no patentable weight to the claimed invention since it does not “breathe life” into the claim. Kerr does not necessarily dispute this position but apparently wants to reserve the ability to take such a position in the future (presumably to distinguish certain prior art references). Claim construction is the time to resolve disputes about a claim term’s meaning, and “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.” *O2 Micro*, 521 F.3d at 1362. Because this term appears only in the preamble and the preamble is not required to breathe life into the claims, Vulcan requests the Court resolve that no patentable weight is to be given to the term. *See Innova/Pure Water v. Safari Water Filtration Sys., Inc.*, 381 F. 3d 1111, 1118 (Fed. Cir. 2004) (citations omitted) (“[l]anguage in a preamble limits a claim where it breathes life and meaning into the claim”).

**ii. Vulcan’s proposal is consistent with the intrinsic and extrinsic evidence.**

Claims 1-24 recite “[a] fluid end assembly” in the preamble, but the term “fluid end

assembly” is itself not limiting. “If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention’s limitations, then the preamble is not considered a limitation and is of no significance to claim construction.” MPEP §2111.02(II); *see also Cochlear Bone Anchored Sols. AB v. Oticon Med. AB*, Nos. 2019-1105, 2019-1106, 2020 U.S. App. LEXIS 15566, at \*10-14 (Fed. Cir. May 15, 2020) (finding a preamble not limiting where it “states only an intended use, adds no structural element, and provides no antecedent basis for the body of the claims”).

Here, the “fluid end assembly” of the preamble is of no significance to construction of the claims, because the claim bodies describe an alleged structurally complete invention—the “fluid end assembly” of the preamble merely describes a use for the invention. *Cochlear*, 2020 U.S. App. LEXIS 15566, at \*10-14; *see also* MPEP §2111.02(II). The ’070 Patent claims do not refer back to the preamble for antecedent basis. Moreover, “fluid end assembly” is not a recitation of additional structure underscored as important by the specification. Indeed, the specification acknowledges that fluid end assemblies are not the only use for the invention. *See, e.g.*, ’070 Patent at 3:34-45 (“[T]he skilled artisan understands that the principles herein may be applied equally in sealing other types of high pressure flow devices.”). Accordingly, a POSITA would have understood that the “fluid end assembly” preamble is merely a statement of purpose or intended use. Therefore, the preamble is not limiting. Marscher ¶¶65-67.

## V. CONCLUSION

For the foregoing reasons, Vulcan respectfully requests that the Court adopt its proposed constructions.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on this 15th day of October 2020, a copy of the foregoing document was served via email on the following individuals at the following email addresses:

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